

NHS Ayrshire & Arran

Local Report ~ June 2008

Blood Transfusion

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NHS Quality Improvement Scotland (NHS QIS) is committed to equality and diversity. We have assessed the performance assessment function for likely impact on the six equality groups defined by age, disability, gender, race, religion/belief and sexual orientation. For this equality and diversity impact assessment, please see our website (www.nhshealthquality.org). The full report in electronic or paper form is available on request from the NHS QIS Equality and Diversity Officer.

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Contents

1	Setting the scene	5
<hr/>		
2	Summary of findings	6
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3	Detailed findings against the standards	10
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	Appendix 1 – Glossary of abbreviations	28
	Appendix 2 – Review process	29
	Appendix 3 – Details of review visit	30
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1 Setting the scene

NHS Quality Improvement Scotland (NHS QIS) was set up by the Scottish Parliament in 2003 to take the lead in improving the quality of care and treatment delivered by NHSScotland. NHS QIS does this by setting standards and monitoring performance, and by providing NHSScotland with advice, guidance and support on effective clinical practice and service improvements.

The Scottish National Blood Transfusion Service (SNBTS) is responsible for collecting, processing, storing and supplying all blood and blood components in Scotland and NHS boards are responsible for ordering and managing their supplies in a safe and effective manner. The Scottish Executive introduced a programme of work to improve and support transfusion practice in Scotland and, as a consequence, NHS QIS appointed a project group to develop clinical standards for blood transfusion practices. The project group developed four standards, covering: core principles; clinical management – pre-transfusion; clinical management – hospital transfusion laboratory; and clinical management – blood and blood component collection, administration and monitoring. The Clinical Standards for Blood Transfusion were published in September 2006. These include details of the project group which set the standards and are available on request from NHS QIS or can be downloaded from the website (www.nhshealthquality.org).

About this report

This report presents the findings from the peer review of **NHS Ayrshire & Arran's** performance against the blood transfusion standards.

The review process has three key phases: preparation prior to the visit; the visit; and the report production and publication following the visit. (See flow chart in Appendix 2 for further detail.) During the visit, each multidisciplinary review team assesses performance using the categories 'met', 'not met' and 'not met (insufficient evidence)', as detailed below.

- **'Met'** applies where the evidence demonstrates the standard and/or criterion is being attained.
- **'Not met'** applies where the evidence demonstrates the standard and/or criterion is not being attained.
- **'Not met (insufficient evidence)'** applies where no evidence is available for the review team, or where the evidence available is insufficient to allow an assessment to be made.

A final category **'not applicable'** is used where a standard and/or criterion does not apply to the NHS board under review.

Each review team is led by an experienced reviewer, who is responsible for guiding the team in their work and ensuring that team members are in agreement about the assessment reached. Membership of the review team visiting **NHS Ayrshire & Arran** on **20 March 2008** can be found in Appendix 3.

2 Summary of findings

2.1 Overview of local service provision

Ayrshire & Arran is situated in south-west Scotland and has a population of around 366,540¹. The majority of the population live in urban areas, of which Ayr and Kilmarnock are the largest in the region, although a significant proportion live in rural areas.

Local NHS system and services

Ayrshire & Arran NHS Board is responsible for improving the health of the local population and for the delivery of the healthcare required. It provides strategic leadership and has responsibility for the efficient, effective and accountable performance of the NHS in Ayrshire & Arran.

At the time of the review visit, NHS Ayrshire & Arran provided health improvement, acute and primary care throughout its divisions. There are two hospital blood banks accommodated within NHS Ayrshire & Arran. Crosshouse transfusion laboratory is responsible for supplying blood and blood components to all clinical areas throughout Ayrshire and Arran. Ayr Hospital blood bank is regarded as a satellite site.

Further information about the local NHS system can be accessed via the website of NHS Ayrshire & Arran (www.nhsayrshireandarran.com).

In the 12 months prior to the review visit to NHS Ayrshire & Arran, 11,800 red blood cell units had been transfused.

The NHSScotland Better Blood Transfusion Programme (BBTP) is supported by a full-time transfusion practitioner who is assisted by a team of trainers.

¹ General Register Office for Scotland. Mid-2006 Population Estimates Scotland: Population Estimates by Age and Sex and Administrative Area. First published on 26 April 2007. Revised 27 July 2007. Available from: <http://www.gro-scotland.gov.uk/files>

2.2 Summary of findings against the standards

A summary of the findings from the review is presented in this section. A detailed description of performance against the standards/criteria is included in Section 3.

Core principles

NHS Ayrshire & Arran has an active hospital transfusion committee (HTC) that was re-established in 2007 following the appointment of a lead clinician for blood transfusion. Membership comprises multidisciplinary representatives from across the NHS board area. The HTC meets quarterly; teleconferencing is used on occasions and accountability is clearly set out on its reporting structure.

There was good evidence of appropriate blood transfusion practice audit activity being carried out across the NHS board area and new practice implementation following outcomes from audits. Various methods of communication are used in the dissemination of audit findings to relevant staff and stakeholder groups, although the review team encouraged the board to consider developing a more integrated system to feedback on multi-professional audit.

The NHS Ayrshire & Arran adverse incident policy and supporting procedures document detail the process for recording and reporting clinical and non-clinical incidents using the systems which have been adopted by NHS Ayrshire & Arran. Staff reported that all appropriate blood transfusion related adverse events or near miss incidents are discussed at HTC meetings.

NHS Ayrshire & Arran use the 'bag and tag' system to ensure all units of blood and blood components received into the hospital laboratories can be traced to recipient or to final fate if not transfused. Traceability documentation is maintained by controlled staff access and is securely stored both electronically and in hard copy for 30 years.

All staff participating in the blood transfusion process within NHS Ayrshire & Arran are trained to establish and maintain patient identification at every stage of the blood transfusion process. However, at the time of the review visit, written procedures for blood and blood component transfusion did not specify gender recording at every stage of this process. Board staff recognise that recording the minimum data required to positively identify the patient on all transfusion documentation is currently a challenge for the board. The requirement to include gender on all documentation will be addressed once the NHS Ayrshire & Arran patient identification guideline is ratified and implemented across the NHS board area.

Clinical management – pre-transfusion

NHS Ayrshire & Arran informed the review team that there is a system in place for staff to record discussions with patients on treatment options and alternatives to transfusion. While discussions do take place, an interim audit report of blood transfusion documentation within patient health records in 2008 found poor documentation of this discussion. The findings from this audit are to be presented to the HTC to decide how to address 'documenting' discussion issues. The review team

noted as a challenge for the board the need to record pre and post-transfusion discussions with patients.

Information leaflets are available in all clinical areas. There is good access to translation services when required. The transfusion practitioner is responsible for ensuring all clinical areas have sufficient stock of leaflets and are informed of any updates to patient leaflets. At the time of the review visit, leaflets explaining alternatives to transfusion were readily available throughout the NHS board area. However, the review team, at the time of the review visit, identified a need for the board to raise staff and patient awareness of the availability of all blood transfusion literature.

In emergency situations where pre-transfusion discussion is not possible, staff would endeavour to establish the identity of the patient through checking their personal belongings and making enquiries with accompanying relatives. Hospital health records would also be checked for special requirements or advance directives.

The interim audit report of blood transfusion documentation within patient health records indicated that all blood and blood components are routinely authorised and signed by a qualified practitioner.

Clinical management – hospital transfusion laboratory

NHS Ayrshire & Arran has two transfusion laboratories. Both are accredited with Clinical Pathology Accreditation (UK) Ltd (CPA). Crosshouse Hospital laboratory is compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements. Ayr laboratory is registered as a satellite site and staff reported that this laboratory does not require separate MHRA compliance certification.

NHS Ayrshire & Arran has standard operating procedures in place to optimise blood use and minimise wastage. SNBTS monitors blood and blood component ordering on a monthly basis and reports are issued to hospital transfusion laboratory (HTL) staff for review. Emergency protocols for the use of O RhD negative blood are also in place. Satellite fridges are located in strategic areas throughout NHS Ayrshire & Arran for the treatment of patients in emergency situations. Staff reported at the review visit that a new information technology (IT) system was being implemented which would provide an electronic blood stock management system.

Clinical management – blood and blood component collection, administration and monitoring

The board has recognised as a challenge the need to increase the uptake of BBTP Level 1: Safe Transfusion Practice training and a blood transfusion training and education action plan, including a training needs analysis, has been put in place.

Patients receiving a blood transfusion have observations of blood pressure, pulse, temperature and respirations recorded throughout the duration of the transfusion and for a period of time post-transfusion to support identification of any adverse reactions. However, audit found that these observations are not always being recorded and, therefore, the board have failed to meet this standard criterion. There

are clear escalation procedures in place for staff to follow should any concerns arise during the transfusion event. The board has recognised that this is an education and training issue and has addressed this with the introduction of a training and education action plan.

The review team found good evidence of procedures used to record and report serious adverse blood reactions and events to Serious Adverse Blood Reactions and Events (SABRE)/Serious Hazards of Transfusion (SHOT).

3 Detailed findings against the standards

Standard 1a: Core Principles

Standard Statement

There are systems in place supporting clinical governance to ensure safe, effective and appropriate blood transfusion.

NHS Ayrshire & Arran

Essential Criteria

1a.1: There is an established, active, multidisciplinary hospital transfusion committee (HTC) that has defined responsibilities and accountability to the chief executive/NHS board via the clinical governance structure.

STATUS: Met

NHS Ayrshire & Arran has an established, active, multidisciplinary hospital transfusion committee (HTC) which was reformed in 2007 following the appointment of a lead clinician for blood transfusion. The HTC has agreed terms of reference and reports to the clinical and diagnostic services clinical governance group which in turn reports to the clinical governance steering group (CGSG). The CGSG reports to the clinical governance committee that reports directly to the board. The HTC meets quarterly and submits an annual report to the clinical governance committee. Membership includes the clinical effectiveness manager. Issues requiring urgent action are taken directly to the executive medical director by the lead clinician for blood transfusion. The review team was informed that in order to maintain and improve attendance at meetings, teleconferencing is used. Maintaining representation from clinical governance and all clinical areas was recognised as a challenge for the board.

Blood transfusion incident reporting is a standing item on the HTC meeting agenda. NHS Ayrshire & Arran HTC has a clearly defined documented remit which outlines its responsibilities and accountabilities, although the review team noted the terms of reference were overdue for review.

1a.2: The HTC has roles and responsibilities as outlined in MEL(1999)9 and HDL(2003)19. These include involvement in multi-professional audit, education and training, development and modification of guidelines and protocols, and involvement of stakeholders.

STATUS: Met

NHS Ayrshire & Arran is involved in multidisciplinary audit. An audit programme has been implemented within the haematology laboratory, and a clinical effectiveness plan has been developed for laboratory services which includes blood transfusion. At

the time of the review visit, staff reported that an audit action plan for blood transfusion was in development and due to be approved by the HTC at their next meeting. The review team noted evidence of considerable audit related to blood transfusion. For example the maximum surgical blood ordering schedule (MSBOS) followed in Crosshouse Hospital, Kilmarnock, was monitored for its efficiency to provide for operative blood loss during orthopaedic procedures and maintain stock levels. Information learned from this audit led to revision of the MSBOS and laboratory standard operating procedures (SOPs). Hospital transfusion laboratory staff were informed of the new MSBOS policy through staff meetings and memos. Audit data are disseminated widely to relevant staff groups and staff are informed at staff meetings. Results of audits are reported to the HTC and the members feed back the findings to their own service area. Audit data which have identified education and training needs in the medical staff group have been presented to the service directors forum.

Blood transfusion training features as a standing item on the HTC agenda where regular updates are presented by the transfusion practitioner. Training is available electronically and face-to-face. Staff reported that a blood transfusion 'train the trainer' day is arranged for delivery by the transfusion practitioner in June 2008.

All policies are ratified and disseminated in accordance with the NHS Ayrshire & Arran guidance on the development and ratification of clinical policies, guidelines and procedures document. The HTC is responsible for developing and approving policies and protocols.

1a.3: The HTC, in collaboration with the clinical governance committee, implements the NHSScotland Better Blood Transfusion Programme (BBTP).

STATUS: Met

NHS Ayrshire & Arran has an established hospital transfusion team (HTT) that leads the implementation of the NHSScotland Better Blood Transfusion Programme (BBTP). Membership of the HTT includes the consultant haematologist, HTC chair, transfusion practitioner, haematology laboratory manager and chief biomedical scientist, who also sit on the HTC. Other members are co-opted onto the HTT as required.

1a.4: The HTC reviews all reports of adverse events and near miss incidents relating to blood transfusion and, in response, implements changes in practice where necessary.

STATUS: Met

Discussion of adverse events and near miss incidents relating to blood transfusion is a standing item on the HTC agenda.

The NHS Ayrshire & Arran adverse incident policy and supporting procedures set out a course of action which clearly details the procedures to be followed by staff to effectively record, investigate and manage adverse events or near miss incidents across NHS Ayrshire & Arran. The board uses an electronic incident reporting system, DATIX, to record all clinical and non-clinical incidents along with a traffic light grading system and root cause analysis to determine the impact of the incident. All incidents graded as high risk (red) incidents require a detailed risk control plan. Red incidents are reported to NHS Ayrshire & Arran HTC for action and changes in practice are implemented where appropriate. Lessons learned from incidents are shared with relevant staff through education and awareness sessions. Reports of serious adverse events or reactions and near miss incidents are also submitted to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative.

Standard 1b: Core Principles

Standard Statement

The NHS board has a system in place to ensure that every unit of blood component received into the hospital transfusion laboratory can be unmistakably traced to its recipient, or to its final fate if not transfused.

NHS Ayrshire & Arran

Essential Criterion

1b.1: There is a validated system to ensure that evidence of unmistakable traceability is generated, stored and accessible for 30 years.

STATUS: Met

NHS Ayrshire & Arran has an SOP in place to provide staff with guidance on blood unit traceability. The board uses the 'bag and tag' system which issues a traceability label from the pre-transfusion stage and is tracked throughout the journey of the blood unit until the label's return to the laboratory to confirm transfusion of the unit to the patient. The returned section of the traceability label is securely stored both in paper and electronic form for the recommended period of 30 years. In addition, paper T-cards are prepared for each blood component allocated to a patient. The cards are used to control and document the removal of blood components from the blood bank fridge. Completed T-cards are also stored alongside the traceability labels.

The electronic (computerised) system used to store traceability information generates a daily report of unreturned traceability labels and follow-up action is taken by a medical laboratory assistant (MLA) dedicated to traceability who visits the clinical areas to investigate.

The review team commended NHS Ayrshire & Arran on its excellent traceability system and the improvement in traceability figures since the dedication of MLA resource.

Standard 1c: Core Principles

Standard Statement

There is a robust system in place to establish patient identification details and maintain this at every stage of the clinical transfusion process.

NHS Ayrshire & Arran

Essential Criteria

1c.1: The minimum identification data set (surname, forename, sex, date of birth and unique identification number, eg Community Health Index [CHI]) is used at every stage of the clinical transfusion process to positively identify the patient.

STATUS: Not met

At the time of the review visit, not all NHS Ayrshire & Arran's written procedures for blood and blood component transfusion detailed gender recording at every stage of the blood transfusion process. The recently amended NHS Ayrshire & Arran patient identification guideline includes gender as part of the minimum data set, however, at the time of the review visit, this guideline had not been ratified or implemented across the NHS board area.

All staff involved in the blood transfusion process are required to undertake BBTP Level 1: Safe Transfusion Practice training which includes reference to ensuring positive patient identification. However, the board had identified challenges regarding low uptake of staff training in the blood transfusion process. At the time of the review visit, a training and education action plan, with targeted timescales, had been developed to address ways of raising staff awareness of core blood transfusion training requirements and encouraging training uptake. Staff reported that a 'train the trainer' day is arranged for June 2008 which will identify trainers who will assist the transfusion practitioner in the education and training of all staff.

1c.2: All patients must be identifiable at all times. Inpatients and day patients must wear an identification wristband. If the wristband becomes inaccessible for any reason, an alternative, risk-assessed form of identification is adopted immediately.

STATUS: Not met

The recently updated NHS Ayrshire & Arran patient identification guideline and NHS Ayrshire & Arran blood transfusion policy state that patients receiving a blood transfusion must wear an identity band at all times. If a patient is not wearing a wristband they would not be transfused. However, if the wristband becomes inaccessible for any reason, there is no formal alternative risk-assessed form of identification available. Staff reported that in theatre, if the wristband is likely to be covered by drapes, the wristband would be removed and a new wristband applied to

the ankle. Staff roles and responsibilities for positive patient identification are clearly documented in the patient identification guideline.

The review team encouraged the NHS Ayrshire & Arran HTC to develop a risk-assessed alternative to identity bands.

1c.3: There is a system (eg distinctive wristbands) to alert qualified practitioners to patients who have specific transfusion requirements, including the wish to not be transfused.

STATUS: Met

NHS Ayrshire & Arran has introduced a red wristband system to alert qualified practitioners to patients who have specific transfusion requirements which include the wish to not be transfused. The red band alerts staff to refer to the patient's health record for information regarding transfusion, allergy or special circumstances and requirements. Refusal of consent for blood transfusion is recorded on the general consent form or advance decision document and filed in the patient's health record. New health record folders introduced 12-18 months ago feature a tick box for clinical alerts on the front cover. This alerts the health professional to read the clinical alerts and hazards sheet attached to the front cover. NHS Ayrshire & Arran also has clear guidelines to support staff in the management of adult patients who follow the Jehovah's Witness faith.

1c.4: For patients whose identity cannot be confirmed (eg unconscious patients or patients with communication difficulties), a minimum of gender and one unique identifier (eg accident and emergency number or CHI number) is essential for positive patient identification.

STATUS: Met

The NHS Ayrshire & Arran blood transfusion policy and accident and emergency (A&E) guidelines and orientation pack include guidance for staff on how to manage unidentified patients admitted to the A&E department. The procedure notes a patient would be allocated a unique A&E number until the patient could be formally identified. The unique number and patient's gender would be recorded on the wristband and all documentation. On occasions when staff are unable to confirm the patient's identity by personal effects, the police are notified and take responsibility for establishing the individual's identity.

Guidelines are in place to assist staff when identifying patients with communication difficulties. A language identification card, designated signers and the 24-hour language line telephone translation services are used in NHS Ayrshire & Arran to support communication and establish patient identification details where appropriate.

Standard 1d: Core Principles

Standard Statement

The NHS board has a strategy for management of blood shortages.

NHS Ayrshire & Arran

Essential Criterion

1d.1: Emergency blood management arrangements (EBMA) are established as defined in HDL(2005)25.

STATUS: Met

NHS Ayrshire & Arran provided good documented evidence to support its emergency blood management arrangements (EBMA).

NHS Ayrshire & Arran had agreed membership of its EBMA group. However, the group had not formally met since its establishment as there had not been an occasion where emergency blood was required.

Standard 2a: Clinical Management – Pre-Transfusion

Standard Statement

The decision to transfuse is made following consideration of the potential risks and benefits of, and the alternatives to, transfusion. Where possible this is discussed between the clinician and patient (or their legal guardian) in advance of transfusion.

NHS Ayrshire & Arran

Essential Criteria

2a.1: The patient's records contain evidence that the reason for transfusion of blood or blood components has been explained and discussed with the patient. This includes discussion of valid alternatives to transfusion and the option to refuse.

STATUS: Not met

NHS Ayrshire & Arran's blood transfusion policy includes a section on the decision to transfusion, which notes staff responsibility to inform and discuss with the patient the risks and benefits of, and the alternatives to, transfusion. The policy states that the discussion should be documented and offered retrospectively where pre-transfusion discussion has not been possible. The review team noted that staff are aware of the need to record pre-transfusion discussion, however, although a discussion may take place, the NHS Ayrshire & Arran interim audit report of blood transfusion documentation within patient health records in 2008 demonstrated that the patients' medical records did not contain documented evidence of the discussion between the medical or trained nursing staff and the patient. The findings from the interim audit report are to be presented at the next meeting of the HTC for consideration and recommended action. The review team was further informed that the board is proposing to introduce a transfusion care pathway document that would prompt staff about the need to record transfusion discussions. The review team recognised as a challenge for the board the need to record pre and post-transfusion discussions.

2a.2: Leaflets explaining the risks and benefits of, and alternatives to, transfusion are readily available for patients who may require to be, or have been transfused.

STATUS: Met

The national patient information leaflet: Receiving a Transfusion: Information for Patients and Relatives, is readily available in clinical areas. Copies of leaflets are sourced from NHS National Services Scotland and transfusion practitioners are responsible for ensuring all areas receive new updates. Responsibility lies with staff to inform the transfusion practitioner when to restock. However, the review team, at the time of the review visit, identified the need for the board to raise staff and patient awareness of blood transfusion leaflets.

The most recent patient information leaflets are available to staff electronically on the Scotblood website which includes a link to the national blood transfusion leaflets in a variety of other languages. Locally developed leaflets concerning blood transfusion are available to women in the maternity unit.

The review team encouraged the board to raise staff and patient awareness of blood transfusion leaflet availability.

2a.3: Where pre-transfusion discussion is not possible (eg in an emergency) there is a system, compatible with the patient's clinical needs, to investigate and act in accordance with the patient's treatment preferences. This includes compliance with an advance decision document.

STATUS: Met

The review team was informed that in emergency situations when a patient may be admitted to hospital unconscious, A&E staff ensure that measures are taken to try and establish the identity of the patient by checking their personal effects and asking any accompanying relatives or friends to confirm their identity and any known wishes. Hospital documentation and personal effects would also be searched for advance decision documents and respected.

Staff reported that no adverse events or patient complaints about non-compliance with their transfusion treatment preferences are known to have been received by the board.

2a.4: When pre-transfusion discussion has not taken place, the reasons for transfusion (based on risks and benefits) are discussed with the patient and written information offered retrospectively.

STATUS: Not met

Staff reported that when pre-transfusion discussion had not been possible, the patient would be provided with the NHSScotland Receiving a Transfusion Information for Patients and Relatives leaflet after their transfusion. However, this was noted not to be happening consistently across the NHS board area, and audit data confirmed that blood transfusion discussion was not routinely recorded.

The review team encouraged the board to consider including reference to the blood transfusion episode in the patient's discharge letter.

Standard 2b: Clinical Management – Pre-Transfusion

Standard Statement

Positive patient identification at the time of sampling and the use of a minimum identification data set on samples and request forms is essential for pre-transfusion testing and blood component requests.

NHS Ayrshire & Arran

Essential Criterion

2b.1: Blood samples for transfusion purposes are obtained and labelled in accordance with local protocols, which are based on national guidelines.

STATUS: Not met

NHS Ayrshire & Arran has procedures for obtaining and labelling blood samples, however, a blood transfusion request form audit undertaken in early 2008 concluded that not all of the minimum patient identification data set was recorded on blood request forms and sample tubes. Staff reported that the blood tubes in use across the NHS board area do not have sufficient space to include gender and this is being addressed with the suppliers. The use of the minimum identification data set will be possible following the implementation of the amended NHS Ayrshire & Arran patient identification guideline.

The current blood transfusion policy states pre-labelling of the blood sample tubes is prohibited.

Standard 2c: Clinical Management – Pre-Transfusion

Standard Statement

Blood and blood component prescribing is the responsibility of a qualified practitioner.

NHS Ayrshire & Arran

Essential Criteria

2c.1: All prescriptions for blood and blood components are signed by a qualified practitioner.

STATUS: Met

The NHS Ayrshire & Arran interim audit report of blood transfusion documentation within patient health records found that all prescriptions were authorised by a qualified practitioner. Where a transfusion episode occurred in emergency theatre, the anaesthetist prescribes and documents the blood component on the anaesthetic sheet.

Findings from audits are reported to the HTC.

2c.2: Blood and blood component prescriptions specify: blood component to be administered; number of units (millilitres in paediatric patients) to be transfused; duration of transfusion; any special requirements; and any special instructions.

STATUS: Met

The review team noted that the interim audit report of blood transfusion documentation within patient health records found that blood and blood component prescriptions routinely specified the type of blood component to be administered, the number of units to be transfused and the duration of transfusion.

It was also noted that the document used to record the prescription did not include prompt boxes for special requirements such as irradiated units or special instructions. Staff reported that the clinician who identified the need for special requirements would put a clinical alert in the patient's record and advise the transfusion laboratory of the special requirements. The laboratory record would be updated accordingly and the requirements printed on the compatibility report.

Standard 3a: Clinical Management – Hospital Transfusion Laboratory

Standard Statement

Laboratory operations comply with current regulatory requirements.

NHS Ayrshire & Arran

Essential Criteria

3a.1: All transfusion laboratories within the NHS board are accredited by Clinical Pathology Accreditation (UK) Ltd (CPA) or equivalent and are compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements.

STATUS: Met

NHS Ayrshire & Arran has two transfusion laboratories. Both are accredited with Clinical Pathology Accreditation (UK) Ltd (CPA). Crosshouse Hospital laboratory is fully compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements. However, the review team was informed that separate MHRA compliance was not required for the Ayrshire laboratory as it acts only as a satellite site. The single management system and biomedical scientists (BMSs) rotating between the two sites meet the MHRA requirements. There was evidence of monitoring arrangements in place with community and independent hospitals to ensure that services commissioned for NHS patients on behalf of the board are compliant with the NHS QIS standards for blood transfusion.

3a.2: Competency-based training and assessment systems are in place and training records are maintained.

STATUS: Met

A formal training programme for all new hospital transfusion laboratory (HTL) trainee staff is delivered and individual competence is regularly assessed. There is a competency-based transfusion programme for all BMSs which encompasses all relevant serological procedures. Over a 12-month period, staff must perform at least 10 practical exercises which are assessed by the HTL, chief BMS or nominated deputy. Individual training records are held in each laboratory. It is mandatory for all HTL staff to undertake Level 1 BBTP training.

Standard 3b: Clinical Management – Hospital Transfusion Laboratory

Standard Statement

Procedures are in place to optimise blood use and minimise wastage.

NHS Ayrshire & Arran

Essential Criteria

3b.1: Protocols endorsed by the HTC are in place, including but not limited to: the maximum surgical blood ordering schedule (MSBOS); massive blood loss; major incidents; and emergency blood management arrangements.

STATUS: Met

Evidence submitted for the review visit confirmed that the following protocols were in place: maximum surgical blood ordering schedule (MSBOS); massive blood loss; major incidents; and EBMA.

Monthly wastage reports are sent from the regional transfusion centre to the blood bank and detail blood wastage figures for each product. Blood bank staff assess the wastage rates on a month by month basis. These figures are reported to the HTC with appropriate comments.

3b.2: There is a stock management system to eliminate excess inventory and reduce waste, supported by an information technology (IT) system.

STATUS: Met

The information technology (IT) system in place at Crosshouse Hospital to support stock management is adequate although limited in its capabilities. Because of this limitation, the IT system is supported by manual stock management. Protocols for the emergency issue of O RhD negative red cells are also in place and there are a number of satellite fridges positioned in key areas throughout NHS Ayrshire & Arran. O RhD negative blood is held in the main theatre in Crosshouse Hospital and in the laboratory reception area and theatre storage area within Ayr Hospital. Four units of O RhD negative blood are held in the labour ward of the maternity unit at Ayrshire Hospital and in Arran War Memorial Hospital, Isle of Arran. The independent Abbey Carrick Glen Hospital, Ayr stocks two units of O RhD negative blood.

Staff reported that the new Clinysis IT system, which was being introduced into Crosshouse Hospital laboratory, better supports blood stock management and provides a full audit trail of all blood stock electronically scanned into the system. At the time of the review visit, staff training on the new system was being implemented.

3b.3: In collaboration with clinical specialties, laboratory staff participate in audit of transfusion issues.

STATUS: Met

NHS Ayrshire & Arran provided excellent evidence that demonstrated laboratory staff participate in multidisciplinary transfusion issue audits such as the completeness of the blood transfusion request form and the blood transfusion collection slip. Audit of the number of crossmatch requests and patients transfused in the maternity unit before and after the introduction of a MSBOS also involved collaboration between laboratory and clinical staff. HTL staff assist the transfusion practitioner with clinical and self-audit activity.

Standard 4a: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

Standard Statement

Positive patient identification is performed against the blood component and any accompanying documentation at every stage of the clinical transfusion process.

NHS Ayrshire & Arran

Essential Criteria

4a.1: Only staff who have completed the BBTP continuing education programme (or equivalent) appropriate to their role can participate in the clinical transfusion process.

STATUS: Not met

NHS Ayrshire & Arran staff are aware that only those who have undertaken the Level 1 BBTP training are permitted to participate in the handling of blood and blood components. Staff are encouraged to complete blood transfusion training using the OrasGold™ online recording and assessment system, and the website www.learnbloodtransfusion.org.uk which forms part of the theoretical competency assessment.

Significant challenges have been identified in the low number of staff participating in training across all staff groups. A training and education action plan has been developed to address these challenges and progress will be closely monitored on a monthly basis by the HTT and updates will be reported to the HTC. The plan involves completion of a training needs analysis, targeted contact with individuals for training revalidation and a scheduled BBTP Training for Trainers day.

Staff awareness is being raised using various methods of communication which include an ongoing poster campaign and the design, by the transfusion practitioner, of business cards with the relevant website address for distribution to all staff. Level 1 BBTP training is compulsory for all foundation year one (FY1) junior doctors as it is a requirement of the General Medical Council (GMC) registration. All new staff receive BBTP Level 1 training appropriate for their role in the blood transfusion process as part of their induction. Newly appointed porters shadow existing porters until they are able to demonstrate competency in the collection and movement of blood. NHS Ayrshire & Arran will enrol for the Trainer and Assessors Accreditation Programme (TAAP) when the clinical competency-based assessments are agreed and introduced nationally by the BBTP.

4a.2: The minimum identification data set is recorded on all transfusion documentation (see standard criterion 1c.1).

STATUS: Not met

An audit of the completeness of the minimum data set on all blood transfusion documentation confirmed that gender was not always being recorded on all documentation. The updated NHS Ayrshire & Arran patient identification guideline, once ratified and implemented throughout the NHS board area will support addressing this issue.

Standard 4b: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

Standard Statement

Patients are monitored for any adverse events or reactions during and after the transfusion process as clinically indicated.

NHS Ayrshire & Arran

Essential Criteria

4b.1: Patients are monitored according to hospital transfusion policy and any untoward events (including suspected adverse reactions) are immediately clinically managed and promptly reported to the HTL.

STATUS: Not met

The NHS Ayrshire & Arran blood transfusion policy states that patients' observations (temperature, pulse and blood pressure) are to be recorded at the start of the transfusion and 15, 30 and 60 minutes after the start of the transfusion. Monitoring continues hourly until the end of the transfusion episode. Observations are recorded on the modified early warning score chart/anaesthetic chart which is filed in the patient's health record. In the event of a suspected adverse reaction, the infusion is immediately stopped, the HTL informed and details of the reaction would be documented in the patient's health record. The reaction would be reported following the incident reporting procedure.

However, an interim audit report of blood transfusion documentation within patient health records in Ayr Hospital found that observations were not always being recorded. A further similar audit is planned at Crosshouse Hospital. Staff reported that the findings from this audit had been brought to the attention of the executive medical director and the clinical governance committee. Non-compliance with this standard criterion was considered by the board to be an education and training issue. This had been addressed by the development of the training and education action plan.

4b.2: Serious adverse events and near miss incidents are reported on the clinical incident reporting system in accordance with local protocols.

STATUS: Met

Adverse clinical events and near miss incidents are reported using the electronic DATIX incident reporting system. The system ensures that appropriate follow-up action is taken using root cause analysis. Incidents are investigated by designated staff. The hospital transfusion practitioner and the senior BMS for haematology are automatically notified by email whenever an incident relating to blood transfusion is

reported on DATIX. High risk (red) incidents are reported to the NHS Ayrshire & Arran HTC.

4b.3: Reports of serious adverse events or reactions and near miss incidents are submitted to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative by the relevant staff.

STATUS: Met

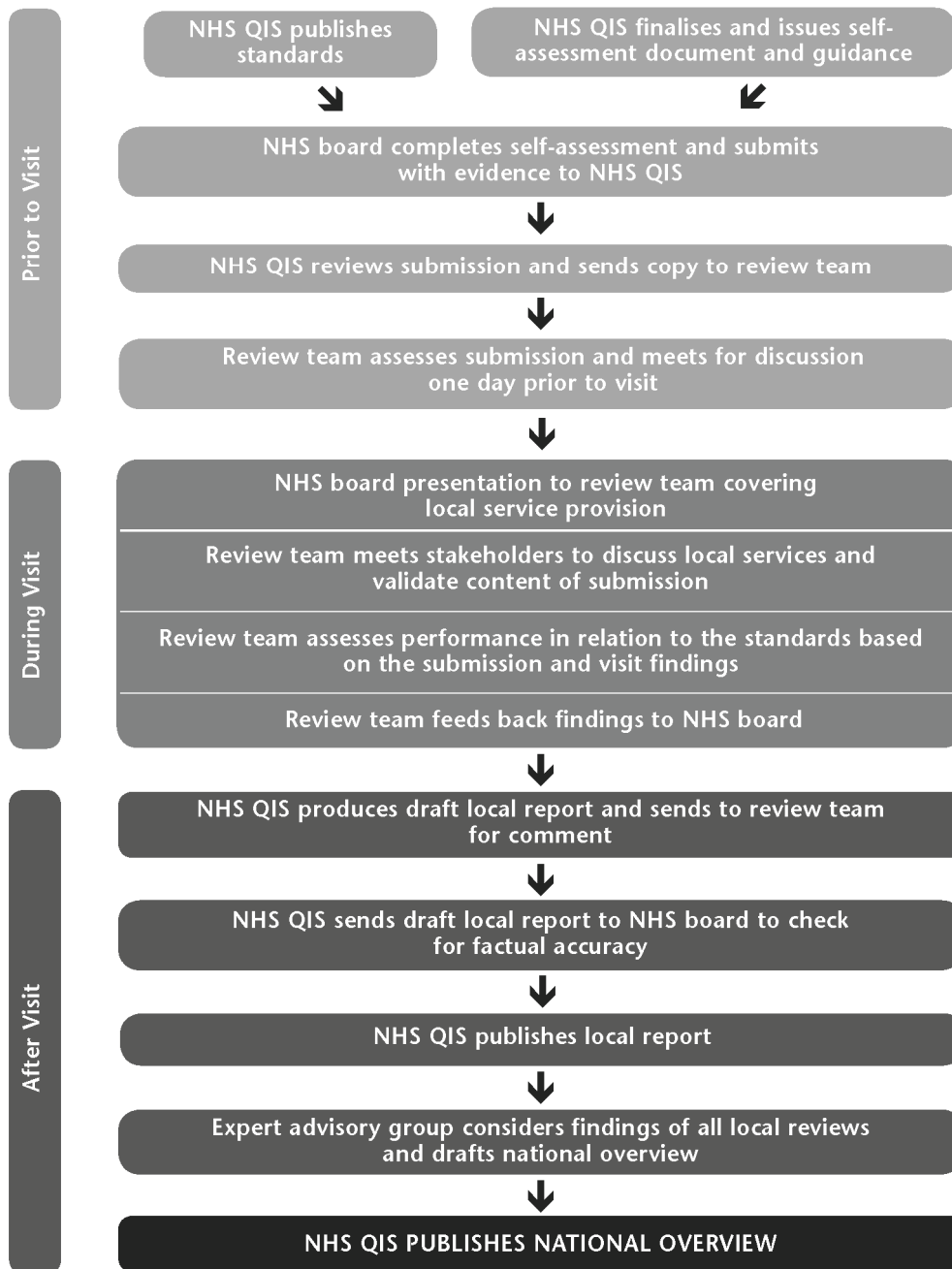
NHS Ayrshire & Arran staff report serious adverse events and serious adverse reactions associated with blood components and blood transfusion following SNBTS national guidelines. The guidelines state that each hospital identifies designated individuals who have responsibilities for reporting serious adverse events or reactions and near miss incidents to SABRE and SHOT initiatives. Members of the HTC are responsible for reporting all necessary incidents to SHOT and SABRE for NHS Ayrshire & Arran. Lessons learned from incidents are shared with relevant staff through education and awareness sessions.

Appendix 1 – Glossary of abbreviations

Abbreviation

A&E	accident and emergency
BBTP	NHSScotland Better Blood Transfusion Programme
BMS	biomedical scientists
CGSG	clinical governance steering group
CPA	Clinical Pathology Accreditation (UK) Ltd
EBMA	emergency blood management arrangements
FY1	foundation year one
GMC	General Medical Council
HTC	hospital transfusion committee
HTL	hospital transfusion laboratory
HTT	hospital transfusion team
IT	information technology
MHRA	Medicines and Healthcare products Regulatory Agency
MLA	medical laboratory assistant
MSBOS	maximum surgical blood ordering schedule
NHS QIS	NHS Quality Improvement Scotland
SABRE	Serious Adverse Blood Reactions and Events
SHOT	Serious Hazards of Transfusion
SNBTS	Scottish National Blood Transfusion Service
SOP	standard operating procedure
TAAP	Trainer and Assessors Accreditation Programme

Appendix 2 – Review process



Appendix 3 – Details of review visit

The review visit to NHS Ayrshire & Arran was conducted on 20 March 2008.

Review team members

Mr Ian Stephenson (Team Leader)

Biomedical Scientist, Member of the Project Group

Ms Heather Daniels

Blood Transfusion Practitioner, NHS Lanarkshire

Dr Annielle Hung

Consultant Haematologist, NHS Lanarkshire

Mrs Morag McIntosh

Public Partner, Greater Glasgow and Clyde

Ms Liz Pirie

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NHS Quality Improvement Scotland Staff

Dr Avril MacLennan

Project Officer

Ms Angela Sutherland

Project Officer

Mr Steven Robertson

Project Officer (Observer)

During the visit, members of the review team met with consultant and nursing staff, transfusion laboratory staff, transfusion practitioners and support staff from across the NHS board area.

The composition of each team varies, and members have no connection with the NHS board they are reviewing. Both of these factors facilitate the sharing of good practice across NHSScotland, and ensure that each review team assesses performance against the standards rather than make comparisons between one NHS board and another. The team remit does not include reviewing the work of individual healthcare professionals, variations in practice (and potential quality) within a service will be encountered and subsequently reported.

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